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ABSTRACT

This handbook was developed to assist local education agency personnel in establishing and administering high school apprenticeship programs, especially in North Carolina. The guide is organized in seven chapters that cover the following topics: (1) what apprenticeship is; (2) how a registered apprenticeship program works; (3) why employers choose to establish an apprenticeship program; (4) the high school apprenticeship method and its benefits; (5) closing the skills gap with high school apprenticeship; (6) establishing a high school apprenticeship program; and (7) questions and answers concerning such topics as employer role in establishing apprenticeship programs, government role, apprenticeable occupations, insurance for apprenticeships, apprenticeship and further education, and the role of unions. Three appendixes constituting over half the document provide an overview of apprenticeable trades in North Carolina, present samples of apprentice program documents and agreements, and summarize pertinent laws. (KC)

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High School Apprenticeship Handbook

North Carolina Department of Public Instruction
Division of Vocational Education Services
Raleigh, North Carolina 27603-1712

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A Handbook for Establishing and Administering Apprenticeship in Secondary Vocational Education Programs

ISSUED BY

NORTH CAROLINA DEPARTMENT OF PUBLIC INSTRUCTION
DIVISION OF VOCATIONAL EDUCATION SERVICES
RALEIGH, NORTH CAROLINA 27603-1712
BOB ETHERIDGE, SUPERINTENDENT

THIS HANDBOOK WAS DEVELOPED WITH THE ASSISTANCE OF
THE NORTH CAROLINA DEPARTMENT OF LABOR
JOHN C. BROOKS, COMMISSIONER

AUGUST, 1991

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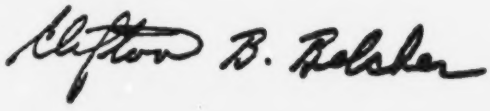
PREFACE

The purpose of this handbook is to assist local education agency personnel in establishing and administering high school apprenticeship. High school apprenticeship is a method of instruction that provides vocational students an opportunity to extend their employment preparation beyond a classroom.

This handbook is a joint cooperative effort between the North Carolina Department of Public Instruction and the North Carolina Department of Labor.

All the information included in this handbook is intended to be of use in establishing an apprenticeship program or pre-apprenticeship program as part of the vocational education program in a high school.

This handbook will explain what apprenticeship is, who plays what role in apprenticeship, and how it can enhance and play an important role in high school vocational education.



Clifton B. Belcher, Director
Divison of Vocational Education Services

INTRODUCTION

THE SKILLS GAP AND LABOR MARKET NEEDS

The work force of the future may already be here. Just three years after publication of the Hudson Institute study for the U. S. Department of Labor and popularization of the phrase *"Workforce 2000"*, work force demographics predicted in this publication are clearly present.

Towers Perrin and the Hudson Institute joined forces early in 1990 to survey employers about *"Workforce 2000"* issues. Issues such as the labor shortage, the skills gap, changes in the composition of the work force (increase in the number of minorities and immigrants in the work force), the increase in working women in the work force, and the graying of the work force were all part of the survey. This study addresses these issues...

A. **Labor Shortages** - The results from the 645 organizations completing the questionnaire show that employers are having increasing difficulty in finding job applicants for non-degree jobs that require high skills.

B. **Tight Labor Market** - The tight labor market will continue to exist even though the economy may experience temporary slowdowns or recession.

C. **International Competition** - In 1987, the Department of Labor issued *"Workforce 2000"* which documented an emerging crisis in the American work place. This particular study warned that demographic trends, technological application in the work place, and international competition will have rather drastic effects on the labor market.

D. **Aging Work Force** - The demand for highly-skilled workers, combined with an aging work force, will continue to create shortages of skilled workers. Such shortages are likely to grow for many years.

E. **Low-Skilled Workers** - At the same time, many low-skilled workers are facing increasing difficulty finding employment. There will be less jobs available that do not require higher levels of skill. This will continue to occur for some of the same reasons and pressures that are causing the tight labor market. This will put additional demands and pressures on all types of training programs including school to work transitional programs.

F. **Widening Skills Gap** - If the skills gap continues to widen, both sides of the labor market will suffer. Many employers will not be able to hire the types of workers they need to compete in international markets. Higher wages alone will not be the answer; part of the answer must be job training programs that produce high-skilled technicians and craftspersons.

Apprenticeship education and training is part of the solution to these issues. This document contains information on how to establish a *High School Apprenticeship Program.*

CHAPTER I

WHAT IS APPRENTICESHIP?

Apprenticeship is one of the oldest methods of job training, yet in this nation it remains one of the most misunderstood of job training programs. In its structure and in its operation, apprenticeship is quite unique.

The apprenticeship promoted and described in this handbook is *"registered apprenticeship."* This means apprenticeship that is registered with the North Carolina Department of Labor (NCDOL). When the apprenticeship program has need of recognition by the U. S. Department of Labor for specific federal purposes, the NCDOL can facilitate such recognition for federal purposes.

Apprenticeship training is:

A. A voluntary system of employee training. Small amounts of public dollars are involved in apprenticeship.

B. A system of training that combines classroom related instruction with structured on-the-job training. Apprentices attend classes or their equivalent and are taught skills on the job.

C. A system of training that utilizes a skilled technician or craftsman to help instruct apprentice(s). This is generally accomplished as part of the on-the-job training. This person is referred to as a journeyman.

D. A system of training that requires employment by an employer who has a direct need of the occupation being trained in the apprenticeship program.

E. A system of training that must be sponsored by an employer, group of employers, or employer-associated entity.

F. A system of training that is run in accordance with how an employer or groups of employers are organized. Apprenticeship can be jointly sponsored by a union and an employer(s) or just by an employer(s). These are called joint and non-joint programs.

G. A system of training that is run and administered by the sponsor (employer(s) or like entity). There are certain minimums and standards that an apprenticeship program must adhere to, but the program is run by the sponsor. One of the biggest misconceptions about apprenticeship is that it must be a union-oriented training program. North Carolina has more non-union associated apprentices registered than union associated apprentices. Employers decide just how they want to structure and organize their companies. Apprenticeship can then be tailored to the way in which they are structured and organized.

H. A system of training that is established for the highly-skilled technician, craftsperson, or mechanic. It is for occupations that do not require a college degree, but do require both skill and knowledge. As a matter of practicality, apprenticeship programs are <u>not</u> established in occupations that do not pay well.

I. A system of training, which usually takes three to four years to complete, requires at least 144 hours of related instruction and has been established in over 150 occupations in North Carolina. Wages usually begin at about half the journeyman rate, but never below the minimum wage, and rise as the apprentice progresses through the program.

J. A system of training which is registered and monitored by the North Carolina Department of Labor, Apprenticeship and Training Division. The division provides free assistance to the employer and to the apprentice and certifies both the training program and the newly trained journeyman.

Apprenticeship is <u>not</u>:

A. A job training system for low-paying, low-skilled jobs.

B. A job training system that is only for union affiliated employers.

C. A job training system that is primarily driven by public funds.

D. A job training system that can be totally sponsored by a school district or school.

Narrative

Apprenticeship is a system of skilled occupational training that combines practical work experiences with related technical instruction. An unskilled worker, an apprentice, works on the job for a sponsor and is taught and supervised by another employee, a fully-trained, skilled, worker in that occupation. The progressively challenging work experiences, which generally last two to four years, are carefully planned ahead of time. The apprentice must successfully complete related technical instruction chosen by the sponsor, usually at a community college, technical school, or high school. The apprentice is formally evaluated periodically and granted wage increases for satisfactory progress. Upon completion of the training, the apprentice is a fully-skilled, knowledgeable, journeyman. Most apprentices are between 20 and 30 years of age, high school graduates, and have worked for their employer for several years before becoming apprentices.

CHAPTER II

HOW DOES A REGISTERED APPRENTICESHIP PROGRAM WORK?

The employer(s) administers and runs the apprenticeship program, but it must be administered in the way in which the sponsor (employer(s)) said it would be when the program was registered. That is accomplished in the following manner:

A. After considering individual employment and training needs, an employer (or group of employers), in conjunction with the North Carolina Department of Labor, develops the *"Standards of Apprenticeship."* These standards include: (1) administrative practices, (2) schedule of work processes, (3) related instruction program, and (4) wage schedules. Programs are then expected to operate in accordance with their own registered standards.

B. Once these standards are approved by the North Carolina Department of Labor, the employer recruits employees who enter into a written apprenticeship agreement with the program sponsor. The sponsor agrees to train the employee, in accordance with the registered standards, while the employee agrees to work at assigned tasks and to participate in the related instruction. The on-the-job training component includes competencies that must be demonstrated on the job. These competencies are called *work processes*.

C. During the training period, the sponsor evaluates the progress made by the apprentice both on the job and in the classroom. Satisfactory progress results in wage increases for the apprentice as called for in the agreement. Programs can be time-based, competency-based and/or performance-based if the employer so chooses. This must be described in the Standards.

D. A representative from the apprenticeship and training division visits the sponsor and apprentice regularly to provide assistance and to assure that the program is operating within the guidelines of the *"Standards of Apprenticeship."* Moreover, the representative assists the sponsor in improving the quality of training and in solving any training problems which may occur during the program. Once the training is completed, the North Carolina Department of Labor issues a nationally recognized Certificate of Completion to the new journeyman.

CHAPTER III

WHY DO EMPLOYERS ELECT TO ESTABLISH AN APPRENTICESHIP PROGRAM?

The reasons for establishing and running an apprenticeship program may be many and varied, but generally speaking, some of the main reasons may be as follows:

A. Many employers in North Carolina have found apprenticeship to be an excellent way to obtain high-quality, skilled craftspersons. Employers direct the training of their apprentices; thereby, ensuring that the apprentices become familiar with the employers' work processes, equipment, and policies which result in fewer personnel problems.

B. Apprenticeship training increases workers' pay, job security, advancement opportunities, prestige, and self-respect.

C. Some employers may worry that they will go to the expense of training apprentices only to have them enticed away, once trained, by other employers. Studies show, however, that more than half of the skills learned in apprenticeship are company specific. Other reports indicate very high retention rates for most employers. History shows most employees remain with the company that helped train them.

D. Employers who show confidence in their employees by providing career advancement opportunities, like apprenticeship, report higher morale, motivation, and job satisfaction within their work force. This makes the employer more attractive to highly motivated, entry-level applicants and increases employer loyalty, thus reducing turnover in the work force.

E. Apprenticeship programs improve the quality of the work force. Employers who provide training opportunities to local people contribute to the state's ability to be more productive and competitive in an increasingly complex and competitive world economy.

What North Carolina Employers Say about Apprenticeship Programs.....

A. *"Westinghouse is committed to total quality in everything we do. An important part of that quality process is the training of our employees. Our apprenticeships have allowed us to develop and maintain skilled crafts that are critical to our success in world markets. Our employees appreciate the opportunity to learn and use new skills that are beneficial to both the employee and Westinghouse."* Donald B. Clevelend, Manager, Salary Employee Relations, Relations and Personnel Services, Westinghouse Electric Corporation, Winston-Salem, North Carolina

B. *"There's a tremendous amount of business available, but there are not enough good toolmakers around. I can't hire someone in this area who is already qualified to make molds. The only way for me to expand is to home grow the talent. That is why I use the Department of Labor's registered apprenticeship program. As fast as I can get one new toolmaker certified, I'm going to get another one started."* David M. Day, Owner, Day Tool & Mold, Inc., Gastonia, North Carolina

C. *"Over half of the really good masons in this part of the state are within a few years of retirement. We realize masonry work is not the most glamourous work in the world, and we know it is not easy. But it's important work, and there's a big future in this for those who learn it. To us, formal apprenticeship training is something that needs to be done in order to ensure another generation of good masons."* Worth E. Spencer, General Superintendent, Jack Sipe Construction Company, Hickory, North Carolina

D. *"GE's commitment to maintain the highest quality product our customers both deserve and demand requires that we keep employees' skills at a state-of-the-art level, and our manufacturing facility in a work class position. We have been very pleased with results obtained through the State Apprenticeship Program to administer basic and new technology craft skills training for our maintenance employees. The QUEST to keep our employees updated to meet rapid technological change has been greatly enhanced by the Apprenticeship Program."* R. E. Lennon, Sr., Program Administrator, GE Company, Wilmington, North Carolina

Why Have an Apprenticeship Program?

Apprenticeship is based on time-tested, proven principles of learning, which provide planned, documented one-on-one instruction by a master craftsperson under real working conditions combined with carefully selected theoretical and technical instruction using the best available texts, instructors, lab experiences, and class activities.

Not only does apprenticeship employ some of the best training methods, it is one of the few ways many occupations can be learned. While some occupational skills can be developed in a classroom or laboratory, many others cannot be totally learned in that way. Custom designed apprenticeship programs identify the skills needed for any given occupation, working environment, and then use the most efficient methods of developing those skills in the apprentice.

Employers invest in apprenticeship training because it is based on their labor needs. They become sponsors of apprenticeship programs because they need skilled workers; and apprenticeship is the best method and, in some cases, the only way to get them. Today, America is facing a skilled labor shortage. Our skilled technicians, craftspersons, and mechanics are leaving the practice; and they are not being replaced in amounts equal to the labor market demand. Employers are learning that they must find ways and means to provide training opportunities. Because apprenticeship is a formal, structured learning experience, the employer is assured that the training will be comprehensive, completed in a timely fashion, and fully documented. This ensures cost effective training.

Sponsors also remain in control of their training. They determine whether, when, who, and how to train. They evaluate the results and determine when training is completed. In short, they assert control over their supply of skilled labor.

CHAPTER IV

THE HIGH SCHOOL APPRENTICESHIP METHOD

Overview

The high school apprenticeship method of instruction is similar to the cooperative education method of instruction. The high school apprenticeship method is a joint training program between the school and business/industry designed to prepare a student for a specific business/industry job.

Components of High School Apprenticeship

A. Students are selected on a competitive basis through an application process to train while in high school for a specific business/industry job.

B. Both the school and business/industry are responsible for helping the student attain the competencies for a specific business/industry job.

C. The apprenticeship committee should be made up of school personnel, business/industry personnel, and apprenticeship representatives from the North Carolina Department of Labor. The committee is responsible for working with the high school apprentice(s) to design a joint program of high school courses and on-the-job training.

D. A high school coordinator is assigned to each high school apprentice any time on-the-job credit is given toward high school graduation. High school coordinators must be certified vocational education personnel. The role can be performed by any cooperative education teacher, or vocational teacher of the discipline in which the student is training, or a vocational director.

E. When high school graduation credit is given, students must receive on-the-job training for at least 450 hours.

F. The on-the-job training can be part of the student's five and one-half hour school day. On-the-job training is required if students are given high school graduation credit for the apprenticeship on-the-job training component.

G. Credit toward an apprenticeship program is governed by the apprenticeship training committee and the granting agency such as the North Carolina Department of Labor.

H. The high school apprentice must be a high school junior or senior, 16 years of age or older, registered in an approved vocational education apprenticeship program, and employed in an apprenticeable occupation.

I. The student-learner's general-related and specific related curriculum is coordinated by the teacher-coordinator or high school apprenticeship coordinator who works directly with the employer designee and apprenticeship committee assigned to work with the student-learner. The student learner's job performance and academic progress are evaluated on a regular basis and is a joint effort between the identified school and industry personnel.

Comparing Apprenticeship Training Programs to High School Cooperative Vocational Education Programs

Apprenticeship training programs and high school cooperative vocational education programs are very similar in terms of standards and requirements.

Both Programs Have:

A. Minimum age requirement.

B. Minimum wage requirements.

C. Formal, approved, written agreement.

D. Supervised on-the-job training component.

E. Specified number of hours of related instruction.

F. Intensive safety component.

General Program Differences:

A. Length of time the individual works.
In general, the apprentice is a full-time worker and part-time student; whereas, the high school cooperative vocational education student is a part-time worker and a full-time student.

B. Number of hours/time to complete the program for the on-the-job training.
High school cooperative education programs are shorter in duration in terms of the length of time it takes the student to complete the program. Apprenticeship is a long term training agreement which goes beyond the completion of high school graduation requirements.

Benefits of Starting Apprenticeship while in High School

High school apprenticeship offers benefits for the students, businesses, industries, and the community. Some of these benefits are listed below.

Benefits for the Students:

A. Students have the opportunity for learning useful employment skills on real jobs under actual working conditions.

B. Interest in classroom work is stimulated by the application of academic and job-related learning to job situations.

C. As wage earners, students develop understanding, appreciation, and respect for work and workers.

D. The ability to get and hold a job helps young people develop a mature and realistic concept of self.

E. The transition from school to employment is made easier.

F. The ability of the student to develop a "post-high school plan," including employment and continuing education, is enhanced.

G. Students earn credits toward graduation and apprenticeship simultaneously.

Benefits for the Employers/Training Sponsors:

A. Employers are assisted in analyzing jobs and developing training outlines.

B. The private sector is provided with opportunities to take an active part in education.

C. Employers who participate in apprenticeship on-the-job training receive the benefits of the school's testing and guidance services.

D. Students are prepared to work in their own localities, under their supervision, and following the methods of a specific local employer.

E. Training time is shortened which reduces employer training costs.

Benefits for the School:

A. A school that conducts apprenticeship on-the-job training is able to extend educational opportunities that are beyond its own physical and financial resources.

B. Skills and knowledge of outstanding individuals outside the school are utilized in the training of young people.

C. Teacher, guidance counselors, and school administrators are provided with improved opportunities to keep in touch with changing employment conditions.

D. Apprenticeship education and training is a living demonstration of the concept that education is indeed a community-wide responsibility.

Benefits for the Community:

A. The number of young people who fail to make a successful transition from school to work is lessened, thereby reducing the economically unproductive members of society.

B. A continuing pattern of school-community relationships is developed.

C. Apprenticeship education and training helps improve the community's pattern of job stability by giving local students job skills and civic competence.

D. An apprenticeship program can help attract additional industries to a community.

CHAPTER V

CLOSING THE SKILLS GAP WITH HIGH SCHOOL APPRENTICESHIP

Sound training programs can prevent situations where many high-skilled jobs will remain vacant and low-skilled workers remain unemployed. While not being a panacea, the high school apprenticeship program achieves to a high degree the following objectives:

A. **Provides one of the very best school-to-work transitions.**
Through on-the-job training, students are exposed to a real job environment where specific objectives and competencies are developed.

B. **Provides a part-time income for the student.**
Participating employers pay for the on-the-job training component. Normally such pay will exceed part-time employment available to most high school students.

C. **Provides one of the very best atmospheres for participating students (apprentices) to relate academic pursuits to their future.**
Since students train for highly-skilled jobs, they readily see the need for academic knowledge and background.

D. **Provides an atmosphere where the on-the-job component is built around and enhances high school courses.**
Participating employers are very much interested in assuring that the apprentice (student) receives proper academic background.

E. **Directly involves the private sector employers with the local school district and high school.**
Employers are directly involved as a participant in the program. A natural consequence is direct communications and a continuing relationship between the high school vocational education component and the private sector employers.

F. **Provides high school students with opportunities to relate classroom instruction to on-the-job training.**
Skills and knowledge are learned in the classroom, and skills and competencies are learned on the job.

G. **Provides students a head start in a program with upward mobility, high earning potential, and continued training following graduation.**
The related classroom training and on-the-job training will continue after graduation. Most apprenticeship programs are three to five years in duration.

High school apprenticeship will not in itself eliminate the skills gap and the tight labor market, but it can be a positive step that can be part of a broader job training solution to enhance our nation's global competitve position.

CHAPTER VI

ESTABLISHING A HIGH SCHOOL APPRENTICESHIP PROGRAM

On-the-Job-Training, an Overview

Part of every apprenticeship program is a component called on-the-job training (OJT). In regular apprenticeship, this component involves a 40-hour work week. Almost all full-time apprentices complete approximately 2,000 hours per year of OJT.

In apprenticeship, OJT is much more structured than merely being on the job. OJT includes a complete list of competencies (work processes) that must be experienced on the job and mastered at a minimum level. Each apprentice must master all the competencies and cannot be overexposed to one particular competency, or group of competencies, at the expense of others.

Apprentices are tested on the job to determine if they have reached or attained such competencies, or, in some instances, a journeyman (experienced technician or craftsperson) certifies they have learned or mastered the competency. Apprentices have a journeyman assigned to help teach and train them.

All competencies are determined prior to the registration of the apprentice and are the same for all apprentices in the same occupational program. In most cases, high school apprenticeship will be similar but will be on a much more limited basis in respect to hours of OJT.

High School On-the-Job Training

A great deal of flexibility exists in determining the time for and length of high school OJT. If the program is to be titled *"high school apprenticeship,"* there must be an OJT component. Program need and local conditions should be included in the criteria to make such a decision. The OJT can be full-time (40 hours per week) during the summer months or it can include full-time summer OJT and a limited amount of part-time and/or release school time OJT. Actually, almost any combination of summer and school time is possible.

Most apprenticeship sponsors are very interested in the basic education and solid academic background of their apprentices. As a result, they do not want the OJT component to jeopardize the academic standing and accomplishments of students in high school. In most cases, apprentices start with OJT competencies that are assigned to first year apprentices. Their progress toward completing the first year depends on how much OJT time is provided.

OJT and the Selection of Occupation(s) (DOT Code(s))

One of the critical decisions is what occupation or occupations should be selected for the program. Every apprenticeship program must be assigned the appropriate Dictionary of Occupational Titles (DOT) number. Presently, there are between 900 and 1000 from which to choose.

The primary motivation in choosing an occupation for which to train is the local labor market in the school district and the availablitiy of employers to be involved.

The high school apprenticeship program requires participating employers. In high school apprenticeship, employers provide for the OJT part of the program and play a major role in determining the OJT competencies.

Criteria that should be part of the occupation (DOT Code) selection are:

A. Numerous employers have a need for skilled workers in this occupation.

B. The occupation requires high skill.

C. The occupation pays well.

D. The occupation is one of over 900 that is listed by the U. S. Department of Labor as apprenticeable.

E. There are some active employers in the labor market area who will be willing to participate in the high school apprenticeship program.

Generally speaking, demand in the labor market and the types of industry in the local labor market area should be the predominant factors in the selection of the high school apprenticeship program. The program will have massive barriers to success if local labor market factors are not considered initially.

The North Carolina Department of Labor (NCDOL) Apprenticeship Representative

The school district must involve the local Apprenticeship Representative (AR) for the program to be titled high school apprenticeship.

The AR is a great resource and will work hand in hand with the school district to establish and maintain the high school apprenticeship program. The AR is very accustomed to working with private sector employers and can be of major assistance in finding employers to participate, providing OJT competencies, relating training needs, and getting the program registered with the NCDOL.

High school apprenticeship programs must be jointly developed by the local school district and the NCDOL. The NCDOL is represented by the AR, and the school district is be represented by appropriate vocational education authority.

If a school district and/or local high school is interested in high school apprenticeship, the first step is to contact the local AR or the Division of Vocational Education Services, North Carolina Department of Public Instruction.

Things to do - A Short List

The following is a suggested *"short list"* of how and what decisions must be made to establish a high school apprenticeship program.

A. Contact the local N. C. Department of Labor apprenticeship representative.

B. Decide what type of high school apprenticeship model will work best in a local area.

C. Carefully review the local labor market to determine possible occupations for training.

D. Recruit participating employers.

E. Write program standards. (How the program will operate).

F. Secure appropriate resources.

G. Develop an articulation and post-secondary follow-up.

H. Register the program.

I. Operate the program and evaluate its success on an on-going basis.

One important point to keep in mind is that the program will begin in high school and will typically continue with the community college. The employers will basically remain the same so the OJT will change only in degree. The related classroom instruction will be articulated between the high schools and the community colleges over the length of the apprenticeship. This makes high school apprenticeship an important component of *Tech Prep*.

CHAPTER VII

QUESTIONS AND ANSWERS

Why do Employers Establish Apprenticeship Training Programs?

Not only does apprenticeship employ the best training methods, it is the only way many occupations can be learned. While some occupational skills can be developed in a classroom or laboratory, many others cannot. Custom designed apprenticeship programs identify the skills needed for any given occupation and working environment and then use the most efficient methods of developing those skills in the apprentice.

Application of technology, demographics, and the movement toward a global economy have all combined to form what has become known as the *"skills gap."* Employers are discovering that they must develop partnerships with education if employees are to match the high skills requirement of many of the jobs.

Apprenticeship can do much to meet that need. Apprenticeship provides opportunities for less skilled employees to enjoy higher pay, security, and prestige of the skilled occupations. Because of these opportunities, apprentices typically display high morale, low absenteeism and turnover, and loyalty toward their employers.

What is the Role of Government in Apprenticeship?

The National Apprenticeship Act (50 Stat. 664; 29 U.S.C. 50) and a State Apprenticeship Act (G.S. 94) in North Carolina, deal with minimum activities and requirements that constitute a registered (both state and federal) apprenticeship program. North Carolina registers for both state and federal apprenticeship recognition. In North Carolina, the Act's provisions are administered by the North Carolina Department of Labor, primarily through a field staff of local area representatives, who provide services free of charge. The Apprenticeship and Training Division, N. C. Department of Labor, promotes apprenticeship, provides consulting services to employers, accredits training programs (registration), and recognizes those finishing accredited programs.

Participation of employers in the National Apprenticeship Program is voluntary. Unlike many other manpower development programs of recent years, no direct financial subsidy is offered to employers.

Why do the Employers Register Apprenticeship Programs?

Some of the state's employers have informal training programs similar to apprenticeship but without governmental support or recognition.

The Department of Labor will only accredit programs that meet standards which have been developed over the years that ensure the smooth and effective operation of the program and protect the welfare of the apprentice. Employers assure themselves and others of the quality of their program through the accreditation process.

Sponsors become eligible for the continued consultative services from the Department of Labor's professional field staff. The ARs provide assistance in the development of training programs, monitor the

program operation, help resolve problems, and assist in documentation and recordkeeping. These services are especially valuable to employers who lack the resources to hire outside consultants or establish their own training departments.

Completers of registered apprenticeship programs receive a nationally recognized certification of completion that can only be issued in North Carolina by the Department of Labor. Being able to offer their apprentices a certificate enhances the employer's ability to attract and keep high quality apprentices throughout the training program.

What is High School Apprenticeship?

High school apprenticeship involves a program of occupational training that involves three entities: the senior high school, the employer(s), and the Apprenticeship and Training Division of the North Carolina Department of Labor.

A high school apprentice is a vocational education student who is a registered apprentice. The student's employer has a registered apprenticeship program. The release time spent working for the employer counts toward the completion of their term of apprenticeship. Often, vocational courses taken in high school are accepted by the sponsor as part of the related training. The student can earn high school credit and is expected after graduation to work full-time for the sponsor and his/her education and training.

There is much flexibility in high school apprenticeship which offers many combinations that are beneficial to all parties.

Do any Special Rules Apply to High School Apprenticeship?

Yes, a high school apprentice must be at least 16 years old and enrolled in a formal high school apprenticeship program. The sponsor must abide by federal and state laws concerning child labor. Like all workers under the age of 18, high school apprentices must also obtain work permits.

There are certain exemptions to child labor laws that are available to both cooperative education students and apprentices for on-the-job training.

Because the employment and training of an apprentice will continue after graduation, employers are making a considerable commitment. Therefore, they are expected to be more selective in who they accept as an apprentice. Sponsors also have greater control over what they will accept as required related training. In addition, high school apprenticeship occupations are limited to those considered apprenticeable. Finally, apprenticeship positions may not recycle each year, depending on the employer.

What Kinds of Occupations Are Apprenticeable?

Of the 24,000 occupations listed in the Dictionary of Occupational Titles, over 800 are considered high-skilled, apprenticeable occupations. Some apprenticeships are in the construction trades; however, construction accounts for only 18 of these 750 occupations. Apprenticeship occupations are found throughout the state in almost every industry. Manufacturing is also a common industry for apprenticeships. Sponsors may have thousands of employees or just a few.

Apprenticeship occupations are not the *"dead-end"* jobs many young people find when they enter the labor market. The average beginning journeyman's hourly wage in North Carolina today is about $12.00, including fringe benefits.

Generally, an apprenticeable occupation takes three to four years of on-the-job training, at least 144 hours of related instruction, and is not designed for a four-year college training program, or training for positions of management.

Are Some of these Occupations Involved Considered to be Hazardous? Aren't there Regulations Forbidding Young Workers from Working in those Occupations?

Exceptions for registered apprentices and *"student learners"* are included in the federal and state regulations that prohibit 16- and 17- year-old workers from *"hazardous occupations."* The close supervision an apprentice receives on the job in a registered program is considered justification for these exemptions. The Department of Labor will assist the sponsor to ensure that no regulations are violated.

What about Insurance? Don't Insurance Companies Refuse to Insure Workers Under 18?

Insurance situations will vary from employer to employer. The question is best approached on an individual basis. Often employers and insurance agents misunderstand both the child labor regulations and the special supervision that an apprentice receives. If insurance seems to be a barrier to high school apprenticeship, a Local Education Agency (LEA) may wish to secure insurance coverage for their apprentices, similar to that being done for student workers in other cooperative education programs.

What Keeps a Student from Dropping Out of School once they Are in an Apprenticeship Program?

According to state regulations, an apprentice must be a high school graduate, a high school completer, must have passed an equivalency examination (GED), or be in an academic program leading to a diploma. If a high school apprentice drops out of school, they risk being dropped from the program and losing their job. Employers who encourage their apprentices to drop out may have their program de-registered.

Doesn't On-the-Job Training Discourage Young People from Furthering their Education?

No, quite the contrary. A high school apprentice will be required to take related training classes after graduation, usually at the local community college or technical school. Many apprentices go on to complete degree programs. The successful completion of an apprenticeship program has been for many the first step toward supervisory and management positions.

How Are the High School Apprentices Supervised?

High school apprentices can be supervised in the same manner and by the same school personnel that supervise existing co-op programs. In addition, the Department of Labor's area representatives visit the sponsor and apprentice periodically to ensure that all is operating smoothly. Each high school apprentice, like all apprentices, will be assigned to a recognized craftsperson or technician and will receive OJT supervision from that person.

Is there any Way to Subsidize Apprenticeship Training?

While there is no direct subsidy to an employer for operating an apprenticeship program, other training subsidies to employers do exist, for example, the Job Training Partnership Act (JTPA) and Targeted Job Tax Credit (TJTC). Sponsors who have training agreements with these funding sources can also have a registered apprenticeship program. High school apprentices who qualify under JTPA or other types of subsidy may, in effect, have part of their training costs subsidized. For further information, contact your local Private Industry Council (PIC).

High School Apprenticeship is Somewhat Limited, isn't it?

Correct, not everyone can be an apprentice. Generally, apprentices are bright, mechanically apt, and motivated. Apprenticeship opportunities depend on the amount of private sector participation. It is usually challenging, hard work, but well paid, and with a future. High school apprenticeship is not a replacement for any existing vocational program; it is another strategy for vocational education.

What Does it Take to Operate a Successful High School Apprenticeship Program?

Although high school apprenticeship is being promoted and supported at the state level, high school apprenticeship programs are very much a local affair. Programs must be a cooperative effort involving local school personnel, local employers, and the Department of Labor's local area representative. The program's most critical components are employers willing to train, and well-qualified, willing apprentices. Therefore, any successful program must match the needs of local employers with the desires of high school students to become skilled workers. It will be the commitment to work together to assist in meeting these needs and desires that will determine the success of the program.

What is the First Thing We Should Do if We Are Interested?

Meet with your local apprenticeship representative whose name and address is found in the Appendix. Since high school apprenticeship must be understood and supported throughout a school system, both central office and building level personnel need to be involved. This may mean a series of initial meetings.

What Should Be the Initial Direction the Program Should Take?

We recommend that schools begin small and use the strengths of their existing vocational programs. They should look first to place high school apprentices in occupations that directly relate to existing courses of study. Once the school system has gained some experience with apprenticeship, they can expand the program. The local labor market and the types of skilled jobs that tend to dominate should always be a consideration.

What Can We Expect from the Area Representative?

Schools can expect the representative to explain how schools can become involved in apprenticeship, help promote high school apprenticeship among potential sponsors, assist employers in the development of registered programs, and provide on-going assistance to sponsors and apprentices, as they would with any apprenticeship program.

What is the Role of the School?

The school must provide information about apprenticeship to students, match students to sponsor's needs, schedule students to accommodate their work, cooperate in the promotion of high school apprenticeship, and oversee the placement of student apprentices, as they would do with any co-op student.

How Should Responsibilities for High School Apprenticeship be Assigned within a LEA?

Since each school system is different, there is no best answer to that question. Because this is a vocational program, the director of vocational education will likely assume the primary leadership role. Many school systems also have first-rate, well-established co-op programs. Therefore, the local co-op coordinators may provide most of the supervision of the students. The most important thing is that someone be in charge, and the responsibilities of other school personnel be well established. High school apprenticeship has the flexibility to take many diverse forms. It should be constructed to meet local needs and conditions.

What Kinds of Students Are Likely to be Interested in Apprenticeship?

Students who have made the decision to pursue an apprenticeable occupation.

Students who do not have the money to further their formal education and wish to *"learn while they earn."*

Students who plan work after high school in a family business that involves apprenticeable occupations.

Are Apprenticeships for Male Students Only?

No, many women still think of most apprenticeable occupations as "men's work" and are hard to recruit into apprenticeship programs. In fact, women have proven to be excellent apprentices in virtually all apprenticeable occupations. Further, all registered apprenticeship programs must be committed to providing equal opportunities for women. Many employers are anxious to have skilled women employees in non-traditional jobs.

Getting the Students is Obviously the School's Job, but Who Contacts Local Employers?

Both local school personnel and the area representatives should be involved. The representative will share the names of existing program sponsors and their apprenticeable trades. Some of these may be targeted for contact.

School personnel, especially vocational teachers and co-op coordinators, will have many good contacts within the local business community. These school personnel, however, cannot be expected to answer all the questions about registering an apprenticeship program. Therefore, school personnel and the representative must share information, coordinate their contacts, and sometimes travel together to meet potential sponsors. If either waits for the other to make the contact, the program will most likely fail. *Cooperation and communication will be the keys for success.*

Employer participation is one of the key elements of high school apprenticeship; it is vital to get sincere, well-meaning employers to participate. Keep in mind that the high school phase of the program is only the

beginning of a three to four year training program that produces a high-skilled craftsperson or technician. *High skills mean high wages so everyone can benefit.*

Does Every Apprenticeship Program Involve Unions?

Employers make the decisions as to how they are organized and how they operate. When an apprenticeship program is established with an employer, it is structured in such a way to fit with the way in which the employer is organized.

In North Carolina, a majority of our employers are not party to a collective bargaining agreement. Consequently, there is minimum union affiliation. A majority of the registered apprentices in North Carolina are not union affiliated, which tends to be a reflection of the percentage of employers who have collective bargaining agreements.

Whether an employer has an apprenticeship program has no bearing on union or non-union affiliation. Apprenticeship adapts well to either type of employer structure.

APPENDIX A

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Apprenticeable Trades Registered with the North Carolina Department of Labor 22

What Is Apprenticeship? - A Detailed Explanation Including Terms and Qualifications 24

North Carolina Apprenticeship Offices
North Carolina Department of Labor
Apprenticeship Division
4 West Edenton Street
Raleigh, NC 27601
919-733-7533

APPRENTICESHIP REPRESENTATIVES	COUNTIES SERVED
Mr. Barry L. Judge 1705 Pine Forest Drive Scotland Neck, NC 27847 **919-826-3789**	Beaufort, Bertie, Camden, Chowan, Currituck, Dare, Edgecombe, Franklin, Gates, Greene, Halifax, Hertford, Hyde, Martin, Nash, Northampton, Pasquotank, Perquimans, Pitt, Tyrrell, Warren, Washington, Wayne, Wilson
Mr. Jimmy Kornegay P. O. Box 986 Kenansville, NC 28349 **919-296-0504**	Bladen, Brunswick, Columbus, Duplin, Robeson, Sampson, New Hanover
Ms. Lisa H. Leemore P. O. Box 36407 Greensboro, NC 27416-6407 **919-274-5208**	Alamance, Caswell, Durham, Granville, Guilford, Orange, Person, Vance
Mr. Stan Rube P. O. Box 1795 Swansboro, NC 28584 **919-393-6256**	Carteret, Craven, Jones, Lenoir, Onslow, Pamlico, Pender
Mr. William H. Stallings, Jr. P. O. Box 424 Garner, NC 27529 **919-772-7375**	Chatham, Cumberland, Harnett, Hoke, Johnston, Lee, Moore, Scotland, Wake
Mr. C. W. Campbell P.O. Box 1923 Salisbury, NC 28144 **704-633-2792**	Anson, Davidson, Davie, Forsyth, Iredell, Montgomery, Randolph, Richmond, Rowan, Stanly

APPRENTICESHIP REPRESENTATIVE	COUNTIES SERVED
Mr. Gary Hammer P. O. Box 9872 Asheville, NC 28815 **704-298-0964**	Buncombe, Cherokee, Clay, Cleveland, Graham, Haywood, Henderson, Jackson, Macon, Madison, Polk, Swain, Rutherford, Transylvania, Gaston
Mrs. Alice G. Jones P. O. Box 3416 Concord, NC 28027 **704-788-3051** **704-342-6966** *(Charlotte office)*	Cabarrus, Mecklenburg, Union
Mrs. Brenda C. Saunders P.O. Box 1676 Marion, NC 28752 **704-652-8417**	Alexander, Burke, Caldwell, McDowell, Mitchell, Yancey
Mr. Allen Sigmon P. O. Box 736 Maiden, NC 28650 **704-428-9532**	Alleghany, Ashe, Avery, Catawba, Lincoln, Rockingham, Stokes, Surry, Watauga, Wilkes, Yadkin

APPRENTICEABLE TRADES REGISTERED WITH THE NORTH CAROLINA DEPARTMENT OF LABOR AS OF AUGUST, 1991

BUILDING AND CONSTRUCTION TRADES

BRICKLAYER
CABINETMAKER
CARPENTER
CEMENT MASON
DRAFTER
ELECTRICIAN
FIBERGLASS BOAT BUILDER
GLAZIER
HEAVY CONSTRUCTION EQUIPMENT OPERATOR
INSULATOR
LAND SURVEYOR
LINE ERECTOR
LINOLEUM AND CARPET LAYER
MILLWRIGHT
PAINTER
PIPEFITTER
PLUMBER
REINFORCING IRONWORKER
SHEET METAL WORKER
SHEET METAL AND AIR CONDITIONING MECHANIC
STAINED GLASS GLAZIER
STRUCTURAL IRONWORKER

INDUSTRIAL TRADES

AUTOMOTIVE MACHINIST
CLOTH CUTTING MACHINE OPERATOR
COMPUTER NUMERICAL CONTROL MACHINIST
ELECTRIC MOTOR REPAIRER
ELECTRIC DISCHARGE MACHINE SET-UP OPERATOR
FORK LIFT MECHANIC
GAGE MAKER
GRANITE SAWER (ROTARY SAW)
HEAVY EQUIPMENT MECHANIC
INDUSTRIAL CARPENTER
INDUSTRIAL MACHINE REPAIRER
INSTRUMENT MECHANIC
KNITTING MACHINE MECHANIC
LOOM FIXER
MACHINIST
MACHINIST-MECHANIC
MAINTENANCE MECHANIC
MOULDER MACHINE OPERATOR
PLANT MAINTENANCE MECHANIC
SAW FILER
SCREW MACHINE OPERATOR
SHEET METAL FABRICATOR
TOOL AND CUTTER GRINDER
TOOL AND DIE MAKER
TOOLMAKER
WATER PLANT OPERATOR
WELDER

SERVICE TRADES

AIRCRAFT ELECTRICIAN
AIRCRAFT MECHANIC
AUTO BODY REPAIRER
AUTO TECHNICIAN
AWNING MAKER
BAKER
BINDERY TECHNICIAN PRINTING
BUSINESS MACHINES MECHANIC
CHEMICAL PLANT OPERATOR
PURIFIED ACID
COOK, HOTEL AND RESTAURANT
DENTAL TECHNICIAN
DIESEL MECHANIC
DRY CLEANER
ELECTRIC APPLIANCE SERVICER
ELECTRICAL INSTRUMENT REPAIRER
ELECTRONIC TECHNICIAN
ENVIRONMENTAL CONTROL
SYSTEMS INSTALLATION/SERVICE
FARM EQUIPMENT MECHANIC
FLORAL DESGINER
FRONT END MECHANIC
FUEL INJECTION SERVICER
FUNERAL SERVICE
FURNITURE UPHOLSTERER
GAS APPLIANCE SERVICER
GOLFCOURSE TECHNICIAN
GUNSMITH
HEALTH CARE TECHNICIAN
(MEDICAL)
HEALTH CARE TECHNICIAN
(PSYCHIATRIC)
INSTALLER TECHNICIAN
(CABLEVISION)
JEWELER
MARINE EQUIPMENT MECHNANIC
MEAT CUTTER
MOTORBOAT MECHANIC
MOTORCYCLE MECHANIC
OFFICE MACHINE REPAIR
OFFSET PRESS OPERATOR
OPTICAL TECHNICIAN
OPTICIAN
PARTS CLERK
PHOTO STRIPPER
PHOTOGRAPHER
PHOTOLITHOGRAPHER
PHOTO RETOUCHER
PHOTOTYPESETTER OPERATOR
PNEUDRAULICS SYSTEMS MECHANIC
PRINTING PRESS OPERATOR
RADIO REPAIRER
RADIO TELEVISION REPAIRER
REFRIGERATION MECHANIC
ROTOGRAVURE-PRESS OPERATOR
SEWING MACHNIE REPAIRER
SHEET METAL/AIR CONDITIONING
SIGN TECHNICIAN
SURGICAL TECHNICIAN
TRAFFIC SIGNAL REPAIRER
TRUCK DRIVER (MULTI-REAR AXLE)
TRUCK AND TRAILER BODY REPAIRER
VENDING MACHINE MECHANIC
WEB PRESS OPERATOR
X-RAY TECHNOLOGIST

WHAT IS APPRENTICESHIP?

Apprenticeship is the process through which individuals learn to become skilled craftworkers.

Throughout history, people have used some form of apprenticeship training to transfer skills from one generation to another. Early European settlers coming to America brought with them the practice of indenture and the system of master-apprentice relationships. This time-honored system called for an apprentice to be indentured to a "Master Craftsman" for a specified number of years. The apprentice received food, clothing, and shelter in return for work performed while learning a craft. When the period of indenture was over, the apprentice was recognized as a "journeyman" — a fully skilled independent worker.

The concept of apprenticeship, as we know it today, was institutionalized in the United States in 1937 when Congress passed The National Apprenticeship Act, popularly known as the Fitzgerald Act. The North Carolina Department of Labor is authorized by the General Statutes as the administrator of this act in North Carolina and as the accrediting agency for formal apprenticeship programs.

Definition

Modern apprenticeship is a formal, voluntary system of employee training combining on-the-job training, supervised by skilled journeyman craftworkers, with related technical instruction. A journeyman is a worker who has satisfactorily completed an apprenticeship, or has learned a trade through many years of experience on the job, and is classified as a skilled worker in a particular trade. The apprentice learns the arts and skills of the trade through on-the-job experience at the worksite.

Theory is taught through job-related courses in subjects such as drafting, blueprint reading, trade math, physical science, safety, tools and materials, welding, and basic chemistry. This technical instruction is provided either by the employer, a local community college, a technical institute, or a correspondence course.

The mixture of theory and practice offers advantages to employers and trainees alike. For trainees, apprenticeship is at once an educational scholarship and paid employment. For employers, apprenticeship not only leads to a high degree of skill in workers, but also instills in them discipline, pride of workmanship, and a sense of loyalty.

Generally recognized as the best method for teaching people to become skilled craftworkers, apprenticeship gives its trainees a number of advantages over those trained by less structured methods. Among these advantages are the opportunity to learn their trade more quickly and effectively, and to work more steadily, safely, and productively.[1] On-the-job training offers apprentices another unique advantage, and that is the opportunity to learn to make decisions in a work environment that will impact on the fortunes of the employer, and furthermore, to deal effectively with the pressures of making those decisions.

Role of the North Carolina Department of Labor

The North Carolina Department of Labor serves as a catalyst and the accrediting agency for apprenticeship programs.[2] North Carolina General Statutes 94-1 to 94-11 provide that the North Carolina Department of Labor shall set up "a program of voluntary apprenticeship under approved apprentice agreements providing facilities for their training and guidance in the arts and crafts of industry and trade, with parallel instruction in related and supplementary education...."[3] In endeavoring "to open to young people the opportunity to obtain training that will equip them for profitable employment and citizenship," apprenticeship representatives of the Department of Labor actively seek out employers to sponsor apprenticeship training.

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[1] United States Department of Labor, Career Guidance Magazine, "Apprenticeship Now," *Summer 1978 Occupational Outlook Quarterly* (Washington, D.C.: United States Department of Labor, 1978), p. 5. hereinafter cited as Apprenticeship Now.
[2] N.C. Gen. Stat. § 94-1 to 94-11.
[3] *Ibid.* § 94-1.

An apprenticeship representative from the North Carolina Department of Labor Apprenticeship and Training Division visits the sponsor and apprentices regularly to provide assistance and to assure that the program is operating within the guidelines of the standards of apprenticeship. Moreover, the representative assists the sponsor in improving the quality of training and in solving any training problems which may occur during the program. Once the training is completed, the North Carolina Department of Labor issues a nationally recognized Certificate of Completion to the new journeyman.

Program Operation

After considering individual employment and training needs, an employer (or group of employers) in conjunction with the North Carolina Department of Labor develops a set of "Standards of Apprenticeship." These standards include: (1) administrative practices, (2) a schedule of work processes, (3) a related instruction program, and (4) wage schedules.

Once these standards are approved by the North Carolina Department of Labor, the employer recruits employees who enter into a written apprenticeship agreement with the program sponsor. The sponsor agrees to train the employee, in accordance with the registered standards, while the employee agrees to work at assigned tasks and participate in the related instruction. During the training period, the sponsor evaluates the progress made by the apprentice on the job and in the classroom. Satisfactory progress results in wage increases for the apprentice as called for in the agreement.

Kinds of Sponsors

In order to have an apprenticeship program there must be a program sponsor. A sponsor is a single employer, a group of employers, an association, or, on occasion, a labor union which develops the standards of apprenticeship in conjunction with the North Carolina Department of Labor. Public as well as private employers may participate in apprenticeship programs, which are operated at the sponsors' expense.

Apprenticeship programs are categorized as individual or group programs. Individual programs are operated by a single employer, whereas group programs involve several employers participating in a training program operated by a committee representing the participating employers.

Associations participate in apprenticeship through the development of model training programs and by designing and implementing means of assuring that training provided by its members is consistent, complete, and of good quality. The members are employers who operate individual programs that incorporate the association's training standards and quality assurance practices, but which may have widely varying administrative practices.

Where a labor union represents the employees of an organization, programs which are established may include union participation in the administration of the program. These programs are termed "joint programs." Where the employees are not represented by a labor union, and in unionized firms where the union waives its right to participate, the programs are administered solely by the employer. These programs are termed "nonjoint" programs.

Sponsors range in size from Westinghouse Electric Corporation's huge turbine blade and components manufacturing operation in Winston-Salem with more than 100 apprentices involved in the tool and die making, electronics, tool cutting and grinding, and machinist trades, to Jacksonville Printing Company, Inc., of Jacksonville, a small printer with one offset press operator apprentice.[4]

Examples of public employers that sponsor apprenticeship programs are the City of Greensboro Fire Department (firefighter), the Buncombe County Sheriff's Department (deputy sheriff), Broughton Hospital (psychiatric and medical aides), and North Carolina State University (locksmith, carpenter, and painter).

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[4]North Carolina Department of Labor, Apprenticeship and Training Division

Length of Programs

The minimum length of an apprenticeship program is 2,000 hours or one year, under North Carolina General Statute 94-6 and 13 NCAC 14, Section .0204(a)(5)(B).

Most apprenticeship programs are four years in length, although programs vary from one year to six years. G.S. 94-6 requires a minimum of 144 hours of related instruction for each 2,000 hours of on-the-job training, but some employers require or provide substantially more. Apprentices studying to become pipefitters at Federal Paper Board, for instance, must devote about 225 hours a year to related instruction.

Trades represented include not only those in the mainstream of the construction and metal working industries, but also many specialized occupations, such as emergency medical technician, locksmith, butcher, farm equipment mechanic, industrial hygienist, photoengraving retoucher, dental laboratory technician, and programmer for numerically controlled, multiple spindle drill machines.

While most apprenticeship programs are time-based and provide training that is measured in terms of time spent in on-the-job training and time spent in related training, some programs have applied the new performance-based (or competency-based) methodology to their training plans. In performance-based training, the various aspects of the occupation to be learned are each identified in terms of what must be learned on the job and in related instruction and arranged in logical sequence. Apprentices then spend the time needed to become proficient in one aspect and move on to the next as soon as proficiency is demonstrated, thus allowing them to advance through the program at their own pace. Examples of performance-based programs are those registered for Kelly-Springfield Tire Company in Fayetteville (maintenance machinist, instrument repairer, general craftworker) and Meredith Burda Corporation in Newton (machinist, rotogravure-press operator, book binder machine operator, electrician, photo retoucher, re-etcher, electronic engraver technician, photographer, cylinder plater technician, cylinder maker, photo stripper, and stripper technician).

Whether the design of the particular program is time-based or competency-based, the apprentice completes the program only when the sponsor certifies to the North Carolina Department of Labor that the apprentice has achieved the proficiency required and has met all of the requirements to be designated a "journeyman craftworker," and the North Carolina Department of Labor determines that the apprentice has satisfactorily completed all of the required related instruction and has complied with all of the State's attendance requirements.

Related Instruction

The related instruction that is required for registered apprenticeship programs must be fundamentally related to the craft. Such courses include blueprint reading for welders, trigonometry for machinists and sheet metal workers, and hydraulics for maintenance mechanics. The required minimum related instruction may not include basic educational courses such as arithmetic, English, or communication skills.

Traditionally, the related instruction required for apprenticeship programs has been furnished by correspondence courses. These are often considered less than satisfactory, although in many instances they continue to be the only related instruction available to particular program sponsors or apprentices.

The most prevalent method of providing apprentices with required related instruction is for the sponsor to furnish classes for the apprentices in the evening or on Saturday mornings. For instance, apprentices in one machinist program spend three hours in class two evenings a week.[5] Some instrument repairer apprentices spend about ten hours a week on homework.[6] One employer drills his air-conditioning technician apprentices in algebra as they drive from job to job.[7] Others furnish instruction in company or management/union training centers.[8] Related instruc-

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[5]Interview with Gerald Dixon, Square D Company apprentice, 1 February 1983.

[6]Telephone interview with Yvonne Ratchford, Kelly-Springfield Tire Company, Inc., apprentice, 18 April 1983.

[7]Telephone interview with Philip J. Biasi, founder of Affiliated Technical Services, Inc., Greensboro, testing engineer. 10 February 1983.

[8]*E.g.* Kelly-Springfield Tire Company, Inc., Fayetteville; Federal Paper Board Company, Inc., Riegelwood Operation.

tion training materials represent a valuable resource for apprentices, as indicated by one mechanical maintenance training program offered on the open market that contains 51 tapes at $795 each, for a total of about $40,500.[9]

Increasingly, the preferred method for providing apprentices with high-quality related instruction is for the instruction to be provided by community or technical colleges or technical institutes. These schools can provide either (1) the preferred classroom instruction, where an economically large enough class can be assembled; or (2) audiovisual self-training materials in supervised learning labs; or (3) courses that are part of an already established degree or diploma program.

However, difficulty is still broadly encountered in seeking to have the required related instruction furnished by the community college system. Many community and technical colleges and technical institutes in North Carolina do not have the needed related instruction curricula in place. Also, they often do not have faculty capable of teaching these courses. Audiovisual self-training materials for apprenticeable occupations are also largely nonexistent in many of these institutions. Apprenticeship representatives from the North Carolina Department of Labor are available to assist sponsors of an apprenticeship program in arranging for an appropriate form of the required related instruction for their apprentices.

Apprentices may be required to pay for related instruction at technical schools, but most sponsors pay for their apprentices' tuition.[10] As technologies continue their rapid rate of change, apprentices must make an increasingly serious commitment to study, as must journeymen. *Journeymen are craftworkers who are perceived as professionals in their fields.* This means that the craftworkers will strive to stay abreast of the technological changes that occur.

[9] "Equipment Operation Training: A Complete Videotape Industrial Skills Training Program from ITC" (Rockville, Md.: Industrial Training Corporation, 1982).

[10] Interview with James Schulist, Manager, Manufacturing-Engineering, Square D Company, Knightdale, 20 May 1983.

Hands-On Training

All sponsors are alike in offering apprentices the opportunity to learn on the job how to operate expensive, up-to-date equipment that could not be readily matched by public or private technical schools. Even a small North Carolina machine shop, for instance, may own a $184,000 computer numerically controlled (CNC) machine. At that cost this machine is clearly beyond the means of most schools.

The hands-on training, or on-the-job training, in apprenticeship is laid out for the apprentice in the schedule of work processes in the program sponsor's Standards of Apprenticeship. No apprenticeship program may have less than 2,000 hours (one normal work year) of on-the-job training, although the most common length of time is 8,000 hours (four normal work years).

Throughout the time spent in learning an occupation on the job, the apprentice is supervised and taught by a fully qualified worker, called a journeyman. The journeyman is responsible for assuring that the apprentice learns to perform the tasks of the occupation in a safe, accurate, and efficient manner. The journeyman teaches the apprentice "tricks of the trade" that allow the apprentice to do the job well and in the way the employer wants it to be done.

Apprentices learn to apply the knowledge learned in related instruction through the training they receive on the job. They will spend nine to ten times as many hours learning while working than in related instruction, and in the minds of most people involved in apprenticeship, the on-the-job training is the more important of the two kinds of training an apprentice receives.

Hands-on training on the job is the traditional heart of apprenticeship. For most of the four-thousand-year history of apprenticeship, it was the only job-related training an apprentice received. It is the setting where the apprentice learns to do, not just to think about doing, a job. It is the difference between being trained in a school to enter a job and being trained to the level of a journeyman who is fully qualified to perform all of the tasks that make up that job.

Wages

Generally, apprentices who are beginning their training in a trade receive about 50 percent of the journeyman wage. In no case may this be below the minimum wage. For apprentices who receive credit for previous on-the-job experience from their sponsors, beginning wages run higher, reflecting that experience. Thereafter, apprentices receive progressive pay increases, which are tied to improvement in trade skills as reflected by satisfactory performance on the job and in related instruction. Upon completion of the program, an apprentice is entitled to receive a journeyman's wage. The table which appears in Appendix A provides data on 1988 journeyman wages for newly completed apprentices in North Carolina.

Veterans

Veterans with remaining eligibility for educational benefits under federal law may receive benefits payments for participation in an approved apprenticeship or other on-the-job training program. Veterans seeking benefits should apply for them through their county veterans' services officer. A certification by the veteran and the employer is required in advance of the issuance of each monthly benefits check. The law providing veterans with training benefits for apprenticeship and other on-the-job training expires on September 30, 1989.

Age

Apprentices must be at least 16 years of age.[11] Most sponsors, however, set the minimum age at 18, which is the minimum age for employee coverage under most insurance policies and after which there are no special youth provisions under federal and State wage and hour laws.[12]

Educational Levels

Although most employers require apprentices to have either a high school diploma or its equivalent, minimum educational requirements vary among sponsors. Completion of the eighth grade may be enough in the case of employees who have already proven themselves in other jobs and seek promotion through apprenticeship. In general, however, educational levels of apprentices have risen steadily, with recent increases in the number of apprentices with college educations. A number of employers stress the importance of a good background in math, with coursework in algebra and trigonometry now a requirement for some apprenticeships. Sponsors indicate, however, that few applicants are qualified in this regard. For instance, of 590 applicants for the apprenticeship program at Kelly Springfield Tire Company in Fayetteville, only 80 passed the required pre-employment test, with math as the biggest problem for those who failed.[13] Similarly, spokesmen for the construction industry express surprise at the small number of applicants who can take accurate measurements.

The North Carolina Administrative Code states the following with regard to minimum qualifications of apprentices:

.0203 MINIMUM QUALIFICATIONS OF APPRENTICES

(a) An apprentice must have the following qualifications:
  (1) He must be at least 16 years old, except where a higher minimum age is otherwise fixed by law; and
  (2) He must not be fully trained or qualified in the trade or occupation offered in the apprenticeship program in which he is to be trained; and
  (3) He must be a high school "completer," high school graduate, must have passed an equivalency examination, or, with the approval of the director, he may be a high school student enrolled in a course of study leading toward graduation. A sponsor may apply to the director for waiver of this rule for an individual apprenticeship applicant, or an individual craft or trade.

(b) Additional minimum qualifications for apprentices may be established by the sponsor so long as the additional qualifications comply with Section .0800 of this Chapter concerning equal employment opportunity.

History Note: Statutory Authority G.S. 94-1; 94-2; 94-6; Eff. February 1, 1984.

[11] N.C. Gen. Stat. § 94-6.
[12] Apprenticeship Now, p. 9.
[13] Sylvia Porter, "Competition Fierce for Apprenticeship," *The News and Observer*, 2 March 1988, p. 9B. Apprenticeship Now, p. 9.

Costs

Apprenticeship training is financed by the employer who sponsors an apprenticeship program. While it is difficult to place an exact cost on apprentice training, it is easy to arrive at an amount in the vicinity of $50,000 for a typical four-year apprenticeship program, when costs such as apprentice wages, training materials, instruction costs, and lost production are considered.

Some employers may worry that they will go to the expense of training apprentices only to have them enticed away, once trained, by other employers.[14] Studies show, however, that more than half of the skills learned in apprenticeship are company-specific.[15] Other reports indicate high retention rates for most employers.[16] Since apprentices become increasingly skilled and able to work on their own, and their productivity steadily increases, costs of training individual apprentices gradually decrease. A number of employers have estimated that by the end of the first year of apprenticeship they began to recover a profit on their apprentices.[17] One employer estimated that often in the third year of a four-year program and sometimes as early as the second year, apprentices begin to take the lead from journeymen in solving problems.[18]

Record-Keeping Requirements

The North Carolina Department of Labor keeps the documentation required of employers to a reasonable level. Generally, sponsors must provide the same documentation that they would prepare for any training program as a matter of good business practice. If sponsors lack forms of their own, the department furnishes them. The required record-keeping is not burdensome.

The department requires the sponsor to document the apprentices' wage schedules, work processes, and related instruction requirements in a set of apprenticeship training standards which are tailored to the sponsor's needs. The department reviews the standards, approves or disapproves them, and returns them to the sponsor, while retaining a copy in the department. The department also requires the sponsor to record the completion of each work process and documentation of related instruction to certify each apprentice's attendance at and satisfactory completion of each module of the curriculum. Copies of the related instruction records are to be sent to the department on a regular basis for entry into a computerized apprentice "transcript."

Apprenticeship Agreements

In their agreements with apprentices, sponsors promise to place and train registered apprentices in the trades specified. Apprentices, for their part, promise to perform their work and studies faithfully and diligently throughout the term of their apprenticeship. In order for sponsors and the Apprenticeship and Training Division of the North Carolina Department of Labor to evaluate apprentices' progress, apprentices waive their rights under 20 USCA S1232g(b), allowing educational institutions to disclose apprentices' grades and attendance records to sponsors and to the division without further permission from the apprentices.

The agreement gives apprentices the right to review copies of the Standards of Apprenticeship during business hours and the "right to notice" of proposed revisions at least two weeks before sponsors are to submit the proposals to the Apprenticeship and Training Division for approval and registration. Sponsors agree to accept and duly consider apprentices' written comments on the proposals so long as they are received one week before the date for submission. Apprentices attest to having read the standards and promise to abide by them.

During the probationary period for apprentices, usually the first 500 hours, but not more than four months of employment, either party may dissolve the agreement upon written request to the director of apprenticeship of the North Carolina Department of Labor.[19] After that, the apprentice alone, or both parties acting together, may dissolve the agreement at will.[20] The sponsor alone may dissolve the

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[14] Joseph A. Limprecht and Robert H. Hays, "Germany's World-Class Manufacturers," *Harvard Business Review* (November-December 1982), 140.
[15] *Ibid.*, 143.
[16] *Ibid.*, 140.
[17] Johann Hofschuster to Jack Crumpton, 25 April 1983.
[18] Oglesby interview *supra* note 4.
[19] Labor Standards for the Registration of Apprenticeship Programs, 29 C.F.R. S 29.6(h)(2) (1982).
[20] *Ibid.*

agreement upon a showing of good and sufficient reason. Common reasons for a person seeking to dissolve an apprentice's agreement are failure to attend or pass related instruction courses, failure to progress satisfactorily in learning the required on-the-job skills, or infractions of the sponsor's work rules.

The Department of Labor's quality assurance representatives conduct annual reviews of programs with five or more registered apprentices, and five-year reviews of programs with fewer than five registered apprentices. The experience of the department has been that sponsors welcome the opportunity for consultation about the quality of their programs. On these occasions and during visits by regular field representatives, apprentices are free to discuss problems that they choose not to discuss with the employer, despite the employer's interest in knowing about and remedying such problems. Sponsors report that the department's objective review of their programs boosts apprentices' morale.

Certificate of Completion

Upon the successful conclusion of training, the apprentice receives a nationally recognized *Certificate of Completion* from the North Carolina Department of Labor, bearing the State seal. Certificates of completion are a source of pride to apprentices and have proven to be of great practical value to them in seeking employment. Certification of an apprentice's completion and proficiency is furnished to the Department of Labor by the sponsor, and the department verifies the apprentice's satisfactory completion of the required related instruction and compliance with the State's attendance laws.

Equal Employment Opportunity

Sponsors agree to select and train apprentices without discrimination as to race, color, religion, national origin, or sex; and to take affirmative action to provide equal employment opportunity in accordance with the Equal Employment Opportunity Standards published by the United States Secretary of Labor,[21] and with the terms of the relevant rules promulgated by the North Carolina Department of Labor. The North Carolina standards on nondiscriminatory selection and training of apprentices parallel the language of Title VII of the Civil Rights Act of 1964.[22]

By using apprenticeship agreements, sponsors may provide themselves with a measure of protection against civil actions under Title VII. The Title VII provisions have established a basis in other settings for an enormous amount of litigation as members of disadvantaged minorities seek greater representation in the work force,[23] but the occasion of litigation by apprentices against program sponsors is rare, at least in part because of the clear and simple equal employment opportunity requirements for apprenticeship and the periodic review of programs that identify problems before they become serious.

By complying with the standards, at least one North Carolina employer has successfully defended against a Title VII action for discrimination with regard to the rest of his work force. Noting the employer's conscientious effort to promote equal opportunity in his apprenticeship program, the court thought it unlikely that he could have intended to discriminate elsewhere. The Department of Labor apprenticeship representatives have been able to alert sponsors to situations that may expose them to employment discrimination litigation.

Women in Apprenticeship

Nationally, the number of women choosing to become apprentices is on the rise. This reflects the public's changing attitudes concerning women in the work force. Each decennial census from 1900 to 1960 shows women holding only 2 to 3 percent of the jobs in the skilled trades. This figure varied only during World War II. By 1982, however, the number of women in the skilled trades had more than doubled to nearly 6.5 percent. Today, women account for nearly a million skilled craftworkers.

It has been reported that nationwide there are women employed in all of the skilled trades. These include such traditionally

[21] Equal Employment Opportunity in Apprenticeship and Training, 29 C.F.R. S 30.3 (1982).

[22] Civil Rights Act of 1964, 42 U.S.C. S2000.e. (1976 & Supp. V 1981).

[23] William P. Murphy, Paul B. Eaton Professor of Law, University of North Carolina School of Law, was the source for the statement on enormous amount of Title VII litigation; interview 20 June 1983.

"men's" jobs as automobile mechanics, carpenters, heavy equipment mechanics, telephone installers and repairers, police officers, firefighters, and electricians. In North Carolina, women participate in apprenticeship programs at about the same rate as the percent of women in skilled trades nationally. While they comprise about 45 percent of the total work force in the State,[24] they represent only about 7 percent of the people currently enrolled in apprenticeship programs.

One overriding explanation for the low number of women in apprenticeship in our State is that many women are probably unaware of the apprenticeship opportunities available to them. Female students interested in the skilled crafts should discuss the availability of apprenticeship opportunities with their parents, teachers, and high school guidance counselors. Women already employed in the work force should make their employers aware of their interest in apprenticeship.

[24] Telephone interview with Floyd Outland, Employment Security Division, Labor Market Information Division, 21 June 1983.

APPENDIX B

Memorandum of Understanding
North Carolina Department of Labor and
North Carolina Department of Public Instruction 33

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Trades Apprenticeship Program Applicant and Employer 36

MEMORANDUM

TO: All Apprenticeship Sponsors
Vocational Education Directors
Trade and Industrial Education Instructors

FROM: Clifton B. Belcher, Director CBB
Division of Vocational Education
North Carolina Department of Public Instruction

Kenneth C. Pittman, Director
Apprenticeship and Training Division KCP
North Carolina Department of Labor

RE: Memorandum of Understanding
Cooperative Agreement - Trade and Industrial Education

DATE: May 9, 1989

The North Carolina Department of Public Instruction and the North Carolina Department of Labor are encouraging high school students to think about career choices and opportunities in apprenticeable occupations. Students enrolled in trade and industrial classes that are trade specific may be able to receive credit for hours toward apprenticeship related training instruction, provided an agreement is generated between an apprenticeship sponsor, the high school apprentice, and the high school trade and industrial program or instructor.

The Trade and Industrial Education Unit, Division of Vocational Education, North Carolina Department of Public Instruction will assist the high school program as requested in determining appropriate related training along with the North Carolina Department of Labor and the registered apprenticeship sponsor. Potential apprentices or current apprentices should be supplied with appropriate documentation in reference to hours, content of course curriculum and student progress. This documentation should be signed and/or graded by the instructor toward the term of apprenticeship.

The North Carolina Department of Labor will supply to the North Carolina Department of public Instruction a list of all approved related training by program and trade.

The North Carolina Department of Labor apprenticeship representatives will be available to discuss and meet with students at the request of the instructor of the class.

CBB:KCP:aph

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Charlotte-Mecklenburg Schools
Vocational Education

TRADES APPRENTICESHIP PROGRAM

Recommendation

NAME OF APPLICANT _____

The student named above has applied for the Trades Apprenticeship Program, and we would appreciate any information you may offer in regard to the items below. Your response to this request will be appreciated. Please return this form to the Industry-Education Coordinator.

How would you compare the applicant to other students? (Please check the *single* most appropriate box.)

Unable to Judge		Average	Above Average	Top 10%	Top 2%	One of the Top Few Encountered In My Career
	Technical Ability					
	Ability to work with others					
	Motivation					
	Judgment					
	Discipline					
	Reliability					
	Social Attitude					
	Ability to adapt to change					
	Open-Mindedness					

SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE SAMPLE

Please feel free to write whatever you think is important about this student, including a description of academic and personal characteristics. We are particularly interested in the applicant's relative maturity, integrity, independence, initiative, capacity for growth, ability to adapt to change and emotional stability. **We welcome information that will help us to differentiate this student from others.**

_____

Based on your knowledge of this student, do you:

☐ Highly Recommend
☐ Recommend
☐ Recommend with Reservations
☐ Prefer Not to Make Recommendation

Name _____
Last First Middle

Position _____ School _____

School address _____

Office telephone _____
Area Code Number

Signature _____ Date: _____

Please return this form to the applicant's Industry-Education Coordinator.

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2/90

Charlotte-Mecklenburg Schools
Vocational Education

TRADES APPRENTICESHIP APPLICATION

NAME _____ _____ AGE _____
Last First
STUDENT ID # _____ BIRTH DATE _____

HOME ADDRESS _____ HOME PHONE _____

SCHOOL _____ INDUSTRY-EDUCATION COORDINATOR _____

LIST THE VOCATIONAL CLASSES YOU HAVE COMPLETED (GRADES 9-11)

COURSE	GRADE LEVEL	TEACHER

LIST THE VOCATIONAL COURSES YOU WILL BE TAKING NEXT FALL

LIST THE MATH CLASSES YOU HAVE TAKEN

EMPLOYMENT EXPERIENCE

SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE SAMPLE

EMPLOYER _____ _____ DATES _____
TYPE OF WORK _____ _____

EMPLOYER _____ _____ DATES _____
TYPE OF WORK _____ _____

LIST THE APPRENTICESHIP(S) YOU WOULD CONSIDER. 1 _____ 2 _____

Do you have your own transportation (yes / no)?_____ How many hours a week are you willing to work? _____
Would you be available to work Saturdays? _____

What are your strengths?

Why do you wish to participate in the Trades Apprenticeship Program?

What are your educational and/or career goals after high school?

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Charlotte-Mecklenburg Schools
and
North Carolina Department of Labor

TRADES APPRENTICESHIP PROGRAM

EMPLOYER _____ PHONE _____

CONTACT PERSON _____ TITLE _____

ADDRESS _____

_____

TYPE OF WORK _____

NUMBER OF EMPLOYEES _____

_____ YES, I AM INTERESTED, BUT WOULD LIKE ADDITIONAL INFORMATION

_____ YES, I AM INTERESTED AND WOULD LIKE TO DEVELOP A TRAINING PROGRAM WITH THE DEPARTMENT OF LABOR

_____ NO, I AM NOT INTERESTED IN PARTICIPATING AT THIS TIME, BUT WOULD BE INTERESTED IN THE FUTURE

SAMPLE SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE SAMPLE

IEC'S SIGNATURE _____ _____ DATE _____

COMMENTS _____ _____

_____ _____

_____ _____

_____ _____

_____

_____

FORWARD THIS INFORMATION TO:

ALICE JONES, APPRENTICESHIP REPRESENTATIVE
NORTH CAROLINA DEPARTMENT OF LABOR
500 WEST TRADE STREET
ROOM 433
CHARLOTTE, NC 28202

APPENDIX C

Apprenticeship Agreement - North Carolina Department of Labor 38

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Approved Related Training Courses Document 53

Child Labor Fair Standards Act - Bulletin No. 101

Employees Under 18 Years of Age

Exemptions from Hazardous Occupations 54

North Carolina Department of Labor
Apprenticeship and Training Division
4 West Edenton Street
Raleigh, N.C. 27601
(919) 733-7533

Apprenticeship Agreement

The program sponsor and the apprentice agree to the terms of the Apprenticeship Standards incorporated as part of this agreement. The sponsor will afford the apprentice equal opportunity in employment and training without discrimination because of race, color, religion, national origin, or sex. Terms of agreement are on reverse side.

Sponsor: _____
Address: _____
_____
Phone Number: ( ) _____
Program # (File #) _____
Supervisor of Apprentice: _____

Employer:
(if *same* as sponsor, check box and leave blank ☐)
Name: _____
Address: _____
_____
'umber: ( ) _____

Social Security Number: ___/___
Apprentice: _____
Address: _____
_____
_____
Phone Number: ( ) _____

SAMPLE SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE SAMPLE

'irth: ___/___/___ (M D Y)

Sex: ☐ Male ☐ Female

nace:
- ☐ White
- ☐ Black
- ☐ Hispanic
- ☐ American Indian
- ☐ Asian

Educational Background:
- ☐ High School Graduate
- ☐ High School Student
- ☐ G.E.D.
- ☐ Other _____
- ☐ Temporary Waiver
- ☐ Permanent Waiver

Veteran Status:
- ☐ Non-Veteran
- ☐ Viet-Nam Era Veteran
- ☐ Other Veteran

Trade Title	On-The-Job Training	Related Instruction
_____	Hours Required _____	Hours Required _____
_____	Credit for Previous Work Experience _____	Credit for Previous Related Instruction _____
Dictionary of Occupational Titles (D.O.T. Code)	Hours Remaining _____	Hours Remaining _____
_____	Current Wage _____	Wages Paid during Related Instruction: ☐ Yes ☐ No

Probationary Period	Date Apprenticeship Begins	Expected Date of Completion	Attachments? (required if credit is given)
_____ Hours	___/___/___ (M D Y)	___/___/___ (M D Y)	☐ Yes ☐ No

Signature of Apprentice	Signature of Sponsor Representative	Signature of Apprenticeship Division Representative
(Parent/Guardian, if a minor)	Name	Date _____
Date	Title	

Director's Approval:

_____ ☐ Previous Credit _____ ☐ Waiver Date _____

White: File
Green: Apprentice
Canary: Field File
Pink: Sponsor
Goldenrod: VA Copy

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2/90. 2.5M. 7/90. 5M

Form 11

FILE

North Carolina Department of Labor
APPRENTICESHIP DIVISION

CHECK APPROPRIATE BOX

☐ Vietnam Era Veteran
☐ Other Veteran
☐ Non-Veteran

SOCIAL SECURITY NUMBER

ON-THE-JOB TRAINING AGREEMENT

County #: _____ Program Sponsor #: _____

C#: _____

The employer and trainee whose signatures appear below agree to these terms of training:

The employer agrees to conform to the schedule of training approved by the North Carolina Department of Labor, Apprenticeship Division.

The Trainee agrees to apply himself diligently and faithfully to learning the occupation in accordance with this agreement.

OCCUPATION & DOT #:	TERM OF TRAINING (MONTHS)	DATE THE TRAINING BEGINS & ENDS
CREDIT FOR PREVIOUS EXPERIENCE	NORMAL WORK WEEK	PROBATIONARY PERIOD

This agreement may be terminated by mutual consent of the parties, citing cause(s), with notification to the Registration Agency.

NAME OF TRAINEE (Type or Print)

NATURE OF PARENT OR GUARDIAN

SIGNATURE OF TRAINEE

BIRTH (Month, Day, Year)

ADDRESS & ZIP CODE

CHECK APPROPRIATE BOX

☐ MALE ☐ FEMALE

NAME OF PROGRAM SPON

SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE

RACE/ETHNIC GROUP: (Check one)

☐ CAUCASIAN/WHITE ☐ INFORMATION NOT AVAILABLE
☐ NEGRO/BLACK ☐ NOT ELSEWHERE CLASSIFIED
☐ ORIENTAL ☐ SPANISH AMERICAN
☐ AMERICAN INDIAN

ADDRESS & ZIP CODE

HIGHEST EDUCATION LEVEL (Check one)

☐ 8th GRADE OR LESS
☐ 9th GRADE OR MORE
☐ 12th GRADE OR MORE

SIGNATURE & TITLE OF AUTHORIZED OFFICIAL

REGISTERED BY (Name of Registration Agency)

NORTH CAROLINA DEPARTMENT OF LABOR, APPRENTICESHIP DIVISION

SIGNATURE OF AUTHORIZED OFFICIAL

DATE

COMMISSIONER OF LABOR

STANDARDS OF APPRENTICESHIP

for

ATLANTIC PLASTIC & SUPPLY COMPANY

2630 Yonkers Road

Raleigh, North Carolina 27604

FOR THE TRADE OF:

Plastic Machine Fabrication..... 754.381.018

Program Number: 20012

File Number: (0587)

SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE SAMPLE

APPROVED AND REGISTERED BY THE

APPRENTICESHIP DIVISION

NORTH CAROLINA DEPARTMENT OF LABOR

Effective Date of Program: February 4, 1991

STANDARDS OF APPRENTICESHIP

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4.0 SCHEDULES OF WAGES

5.0 *AFFIRMATIVE ACTION PLAN*

SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE

STANDARDS OF APPRENTICESHIP

1.1 **Definitions**

A. **Sponsor - Atlantic Plastic & Supply Company.**

B. **Apprentice** - a person training to learn a skilled trade as an employee of the sponsor of the apprenticeship program described by the Standards of Apprenticeship.

C. **Apprenticeship Agreement** - the written and signed training agreement between the sponsor and an apprentice that is submitted for approval to the registration agency.

D. **Director** - the Director of the Apprenticeship Division, North Carolina Department of Labor.

E. **Journeyman** - a skilled worker who is qualified by experience and training to undertake the tasks necessary for employment by the sponsor in the trades covered by this training program.

F. **Registration Agency** - the North Carolina Department of Labor, Apprenticeship Division, 4 West Edenton Street, Raleigh, North Carolina 27601.

G. **Standards of Apprenticeship** - the written document which describes the operation of the sponsor's apprenticeship program, which also includes a Schedule of Work Processes, a Schedule of Related Instruction, and a Schedule of Wages.

H. **Supervisor of Apprentices** - the person designated by the sponsor to administer the apprenticeship training program described in the Standards of Apprenticeship.

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SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE

STANDARDS OF APPRENTICESHIP

1.2 Statement of Purpose

Atlantic Plastic & Supply Company, may train apprentices under the provisions of these Standards of Apprenticeship, which have been voluntarily submitted to the registration agency for approval.

1.3 Program Operation

1.31 MINIMUM QUALIFICATIONS

All apprenticeship applicants must:

1. have completed an apprenticeship application,
2. have completed or graduated from high school, or have passed an equivalency examination, unless a waiver is granted by the director, unless a high school apprentice,
3. be at least 16 years old,
4. not be fully trained or qualified in the trade or occupation for which they wish to be trained,
5. be physically able to perform the work of the trade,
6. be able to arrange transportation to the work site and to the location of any required related instruction, and

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1.32 SELECTION PROCEDURE

A. Notice for apprenticeship vacancies will be available to employees. The notice will contain the times and places applications will be available and be posted prior to the date applications will be closed.

B. All applicants meeting the minimum qualifications will be interviewed by the sponsor.

Applicants will be evaluated on the basis of:

1. Relevant previous experience,
2. Relevant previous education,
3. Interview evaluation.

C. All applicants will be notified in writing of their selection or rejection for an apprenticeship position.

4. Interview evaluation,

I. All employees will be notified of their selection or rejection for a training position.

1.33 APPRENTICESHIP AGREEMENT

The apprentice, *and if a minor, the apprentice's parent or legal guardian*, and the sponsor will sign an Apprenticeship Agreement. The apprentice will be provided a copy of the Agreement.

Incorporated by reference in the Agreement are the Standards of Apprenticeship. The apprentice will be given a copy of the Standards, or they will be made available during usual business hours for review by the apprentice.

A copy of the Agreement will then be submitted to the registration agency.

1.34. PROBATIONARY PERIOD

The first 500 hours of apprenticeship will be a probationary period for apprentices. During this time the Apprenticeship Agreement may be cancelled by the director of apprenticeship at the written request of the sponsor or the apprentice. After the probationary period, the director may cancel the Agreement at the written request of the apprentice, upon the written request and mutual agreement of the sponsor and apprentice, or upon the written request of the sponsor explaining a reasonable cause.

1.35 APPRENTICESHIP TRAINING

SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE

A. <u>On-the-Job</u>

Apprentices will be given supervised, on-the-job training by qualified skilled workers, as outlined in the attached Schedule of Work Processes for the trade, as opportunities for such experiences occur during the work day. The goal of these work experiences is the development of job skills that will quality the apprentice as a skilled worker in their trade or occupation upon completion of the term of apprenticeship. Each apprentice will be given continuous employment during the term of apprenticeship, insofar as it is possible to do so.

Variations in the hours spent in each area outlined in the Schedule of Work Processes are permissible. The work experiences need not be in the precise order as listed, nor do the scheduled hours of any operation need be continuous

Advanced standing in the apprenticeship program may be given by the sponsor for previously developed skills in the trade. Credit may be granted prior to registration of the Apprenticeship Agreement, provided adequate descriptions are presented on, or attached to, the Agreement.

A period of six (6) months from registration date will be allowed for all <u>current employees</u> to go into the program reflecting more than 50% credit. After six months no one can be grandfathered into the program reflecting more than 50% credit.

Apprentices will demonstrate proficiency in all skill areas prescribed in the Schedule of Work Processes prior to being recommended for completion of apprenticeship.

B. <u>Related Instruction</u>

In addition to on-the-job training, the sponsor will require apprentices to complete course work as in the attached Schedule of Related Instruction. The sponsor will promptly notify the Director whenever an apprentice completes a course of study indicated in the Schedule of Related Instruction.

Credit may be given for previously completed related instruction. The credit will be specified and adequately described in, or attached to, the Apprenticeship Agreement. Such attachment may be submitted to the Director by means of a letter, signed by the sponsor and the apprentice, within the apprentice's probationary period.

Apprentices will **not** be paid for time spent in related instruction, unless that time is spent during regular work hours.

Apprentices will complete all courses in the Schedule of Related Instruction, or receive an appropriate and properly documented waiver for such courses, prior to being recommended for completion of apprenticeship.

C. Wages

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Apprentices will be paid the appropriate wage rate as set forth in the attached Schedule of Wages, reflecting their advancement through the apprenticeship program. The Schedule of Wages is progressive, with initial placement depending upon credit granted by the sponsor for previously developed trade skills. The sponsor will approve or deny wage advancement thereafter upon review of the apprentice's evaluations.

Veterans Administration regulations require all training benefits to be discontinued when an apprentice is paid an amount equal to or greater than the trades journeyman's rate. The sponsor agrees to promptly notify the registration agency and the Veterans Administration when an apprentice who is a veteran and is receiving training benefits is paid the journeyman rate specified in the Schedule of Wages.

D. Hours of Work

The normal work schedule of apprentices will be the same as for skilled workers in the trade. Selection and compensation for overtime will be in accordance with the same procedures used for skilled workers in the trade.

Hours of work for apprentices who are minors (under 18 years of age) will be in accordance with state and federal laws governing child labor.

The sponsor will schedule apprentice work hours so apprentices may attend regularly scheduled related instruction. In the event work activity requires an apprentice to miss related instruction, the sponsor will make arrangements to assure that the missed related instruction can be made up.

1.36 SUPERVISION AND EVALUATION OF APPRENTICES

Apprentices will be under the supervision of a skilled worker while performing the work of the trade. The closeness of supervision will depend on the work location, work being performed, and the skill of the apprentice.

Apprentices will be evaluated during their term of apprenticeship, not less frequently than the intervals specified in the Schedule of Wages. The written evaluation will include both on-the-job and related instruction.

If Satisfactory progress is not being made, the apprentice may:

1. be required to continue training in one of more of the skill areas specified in the Schedule of Work Processes or

2. be required to repeat related instruction courses

3. be held at their current level of advancement.

Repeated failure of the apprentice to make satisfactory progress may result in cancellation of the Apprenticeship Agreement for cause.

The sponsor will promptly request the registration agency for an extension of the term of apprenticeship for apprentices who will be delayed in completing the program. This request will specify the new expected completion date and include the signatures of the apprentice and the authorized representative of the sponsor.

1.37 ADJUSTMENT OF DIFFERENCES SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE

Step One — Applicants or apprentices who have a complaint against the administration of this program may file a complaint with the **Supervisor of Apprentices** specifying the nature of the complaint and asking for a determination.

Step Two — A complaint failing to gain satisfaction from the sponsor may file a written and signed complaint with the Director within one hundred and eighty (180) days of the incident or circumstances complained of, or within sixty (60) days of the final determination by the sponsor, whichever is later, specifying the complaint and requesting a determination. Since it is the policy of the registration agency that all disputes be resolved by the parties to the dispute if all possible, the Director will not make a decision on a complaint unless he is satisfied that the parties have attempted to adjust the dispute locally. If the parties involved have not been successful in arriving at a mutually satisfactory resolution of the dispute, the Director will render a decision within ninety (90) days of receiving the complaint.

Step Three — In the event of the complainant does not receive satisfaction in the determination of the Director, the Commissioner of Labor may be petitioned for a hearing. This must occur within thirty (30) days of the determination by the Director and must specify the nature of the complaint and requesting the hearing for the purpose of gaining final determination. This constitutes the last administrative remedy for the processing of a complaint.

1.38 COMPLETION OR CANCELLATION/DE-REGISTRATION OF APPRENTICESHIP

When, in the judgement of the sponsor, an apprentice has completed both on-the-job and related instruction, the sponsor will promptly send a written recommendation to the registration agency that the apprentice be awarded a Certificate of Completion of Apprenticeship.

When it is determined by the sponsor that an apprentice will not complete the program - for example, the voluntary resignation of an apprentice, or the termination of an apprentice for cause - the sponsor will promptly request the Director of Apprenticeship to cancel the Apprenticeship Agreement.

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1.4 Sponsor-Duties and Responsibilities

1.41 OPERATING POLICIES

The sponsor will operate this apprenticeship program in accordance with these Standards of Apprenticeship and will inform those affected by the program of its provisions.

The sponsor will also, from time to time, review all aspects of the program. Included in this review will be these Standards, the schedules of Work Processes, Related Instruction, and Wages and the affirmative action performance of the program. The sponsor may make revisions for the betterment of the program at any time deemed appropriate, upon due consideration of any advice by the parties covered by the provisions of these Standards.

All modifications and revisions to the Standards will be promptly submitted to the registration agency for approval and incorporation into the registered Standards of Apprenticeship.

1.42 RATIO

In order to assure proper supervision, training, safety, and continuation of employment, the sponsor will train at any one time not more than two to one (2:1) apprentices for each skilled worker regularly employed. Such a ratio will apply individually to each trade registered under these Standards and at each work location.

1.43 DE-REGISTRATION OR CANCELLATION OF STANDARDS

Cancellation of the Standards of Apprenticeship by the sponsor may be accomplished at any time by written request of the sponsor to the registration agency.

De-Registration of the Standards of Apprenticeship by the registration agency may occur by formal proceedings instituted for good and sufficient reason in accordance with state and federal laws and regulations, or where the program had become inactive by reason of no registered apprentices for a period of at least two years.

If the standards are cancelled or de-registered, all apprentices shall be notified within fifteen (15) days of the effective date that the cancellation or de-registration automatically cancels their Agreement.

1.44 SUPERVISOR OF APPRENTICES

The sponsor will designate a Supervisor of Apprentices who will be responsible for the administration of this apprenticeship program. The name, title, address, and telephone number of the Supervisor will be sent to the Director of Apprenticeship by the sponsor by means of a letter, memo, or form that will be attached to, and considered part of, these Standards. The sponsor may change the Supervisor at any time, promptly notifying the Director.

The sponsor assigns to the Supervisor of Apprentices the authority and responsibility to:

1. Act on behalf of the sponsor in the administration of the apprenticeship program,
2. Receive and process applications for apprenticeship,
3. Interview and make final selection of apprenticeship applicants,

4. Provide overall supervision of apprentices, for both the on-the-job and related instruction,

5. Evaluate the progress of apprentices and recommend their progression, retention, termination, or completion,

6. Provide guidance and counsel to apprentices,

7. Communicate to skilled workers, supervisors, and other personnel, the goals, objectives, policies of the apprenticeship program and the importance of their role in the apprenticeship program,

8. Review periodically the operation of the program and the content of these Standards and make recommendations to the sponsor for revisions,

9. Receive, process, and resolve complaints by trainees or applicants, subject to the review and determination of the sponsor,

10. Establish and maintain records specified in these standards and in the provisions of the North Carolina Administrative Code pertaining to apprenticeship,

11. Submit necessary reports and requests to the registration agency,
12. Assist the registration agency, *or if appropriate, representatives of the Veterans Administration*, to conduct reviews of program operation,

13. Review periodically the affirmative action performance of the program, providing the sponsor with the information necessary to establish policies to meet and maintain appropriate affirmative action goals, and

14. Carry out other duties assigned by the sponsor.

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1.45 RECORDS

Adequate and appropriate training records for both on-the-job and related instruction, will be maintained for each apprentice. The sponsor will maintain such records in accordance with the requirements of the registration agency.

A file will be established for each apprentice that will include, at minimum copies of the following:

1. Original application,
2. Apprentice rating sheet, if one is used,

3. Work process and related instructions records,

4. Record of advancement on the Schedule of Wages,

5. Comments, recommendations, or complaints made to the sponsor about the program and the disposition of any complaints, and

6. Completion, extension of term, or Agreement cancellation requests.

The sponsor will maintain all records, including payroll, at the location show in Section 1.2, for all apprentices for a period of five (5) years following the termination, for any reason, of

the Apprenticeship Agreement. The sponsor will make available, upon request, all training and payroll records of apprentices to representatives of the registration agency. *If any apprentices are, or have been, recipients of veterans training benefits for their apprenticeship training under these Standards, the sponsor will also make these records available to representatives of the Veterans Administration.*

1.46 SAFETY

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The sponsor will provide the training needed to enable apprentices to perform their assigned work safely. This training will include sponsor safety regulations, accident reporting procedures, and the availability of first aid and medical facilities. The sponsor will, at all times, exercise reasonable precaution for the health and safety of the apprentices while engaged in the performance of their work. The sponsor will comply with all applicable safety and health laws and regulations of the United States and the State of North Carolina.

1.47 AFFIRMATIVE ACTION

A. The recruitment, selection, employment, and training of apprentices will be without discrimination because of race, color, religion, national origin, or sex. The sponsor will take affirmative action to provide Equal Opportunity in Apprenticeship and will operate the apprenticeship program as required by Section .0800 of Chapter 14 of Title 13 of the North Carolina Administrative Code.

B. Complaints by applicants or apprentices about the sponsor's compliance with federal regulations regarding Equal Employment Opportunity in Apprenticeship must be filed in writing within one hundred eighty (180) days of the time of the incident or circumstances complained of to the Director. The Director will acknowledge receipt of the complaint, notify and provide copies of the complaint to the sponsor, and cause a compliance review and investigation to be made. If voluntary corrective action or a mutual satisfactory agreement cannot be made between the parties involved, the Director will render a decision within sixty (60) days of receipt of the complaint and provide all parties copies of the decision. In the event of the complainant or sponsor does not receive satisfaction in the determination of the Director, the Commissioner of Labor may be petitioned for a hearing. This must occur within thirty (30) days of the determination by the Director and must specify the nature of the complaint and requesting the hearing for the purpose of gaining final determination. This constitutes the last administrative remedy for the processing of an EEO complaint.

C. All apprentices in the same occupation in the program will be provided the same training and will, in all respects, be treated the same with respect to the trade for which he is trained under these Standards.

1.5 Apprentice: Duties and Responsibilities

Each apprentice acknowledges by execution of the Apprenticeship Agreement that they have voluntarily chosen to abide by the provisions of these Standards. The apprentice further agrees to:

1. Diligently and faithfully perform the work of the trade and other pertinent duties as assigned by the sponsor in accordance with the provisions of these Standards,

2. Recognize that he or she is an employee, to respect and protect the property and equipment of the employer, and to abide by the working rules and regulations of the sponsor,

3. Attend and complete with a passing grade the related training provided for in the schedule of related instruction, except for such portions as may be waived.

4. Maintain accurate and up-to-date records of on-the-job training as required by the sponsor or the registration agency.

5. Exercise behavior that insures personal safety and the safety of co-workers.

6. To abide by such rules, regulations, and procedures as may be established by the sponsor, and

7. To abide by the stipulations of the Apprenticeship Agreement.

1.6 Role of the Apprenticeship Division, North Carolina Department of Labor

The Apprenticeship and Training Division of the North Carolina Department of Labor, is the State Agency to register programs for Federal purposes. It functions under the authority of Chapter 94 of the North Carolina General Statutes and Chapter 14 of Title 13 of the North Carolina Administrative Code. State approval of apprenticeship programs and on-the-job training programs, and other training programs is authorized by Executive Order of the governor of the State of North Carolina for VA purposes only.

The Division promotes, develops, registers and assists in the operation of registered Apprenticeship and OJT programs. The goal of the Division is to benefit the State's workers, employers, and economic development.

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G. E. COMPANY PROGRAM: 19831 FILE: 2763
MAINTENANCE MECHANIC
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	WORK PROCESS	HOURS
1.	HAVE KNOWLEDGE FOR MAINTAINING, ALTERING, INSTALLING, REPAIRING OR REARRANGING COMPLEX EQUIPMENT OR MACHINES AND THEIR RELATED CONTROLS. WILL DIAGNOSE EQUIPMENT MALFUNCTIONS AND PERFORM CORRECTIONS WITH MINIMUM OF SUPERVISION.	1,000
2.	MUST BE ABLE TO READ, INTERPRET AND FOLLOW COMPLICATED DRAWINGS TO MAKE ACCURATE ALIGNMENT, FITS OR INSTALLATIONS OF PARTS EQUIPMENT, SUCH AS WIRING, PIPING, ETC.	50
3.	REQUIRED TO TEAR DOWN, OVERHAUL, AND REASSEMBLE INTRICATE MECHANISMS, MACHINES, APPARATUS, ETC., INVOLVING COMPLEX MECHANICAL, ELECTRICAL, HYDRAULIC, PNEUMATIC AND LUBRICATING SYSTEMS.	500
4.	RESPONSIBLE FOR PROVIDING MECHANICAL OR ELECTRICAL SERVICE ON VARIOUS TYPES OF MACHINES OR EQUIPMENT, SUCH AS JIG BORER, STANDARD LATHES, MILLING MACHINES, WELDING EQUIPMENT, BORING MILLS AND GRINDERS, DRILLS, PUNCH PRESS, PRESS BRAKES, SHEARS, SAWS, FURNACES, MOTORS AND VARIOUS PROCESS EQUIPMENT, HEATING, AIR CONDITIONING, AND VENTILATING SYSTEMS INCLUDING THEIR RELATED CONTROL EQUIPMENT SUCH AS RELAYS, MOTOR STARTERS, CONTROL VALVES, ROTOMETERS, PRESSURE SWITCHES, ETC.	1,400
5.	REQUIRED TO SERVICE AND REPAIR VARIOUS SYSTEMS AND COMPONENTS FOR CHEMICAL OR CAUSTIC EQUIPMENT SUCH AS TANKS, PIPING, DRAINS, PUMPS, ETC.	100
6.	RESPONSIBLE FOR PERFORMING REPAIR OR PREVENTATIVE MAINTENANCE ON A VARIETY OF EQUIPMENT, SUCH AS SCREW MACHINES, STRAIGHTENER, PIPE BENDER, AUTOCLAVE, SWAGER, WELDERS, DEBURR EQUIPMENT, PUMPS, AUTOMATIC DOORS, CRANES, FORK LIFTS, BATTERY (GOLF) CARTS, PROCESS EQUIPMENT AND THEIR RELATED CONTROL EQUIPMENT.	1,000

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7.	INSTALLS, REPAIRS OR SERVICES SUCH FACILITY OF PRODUCTION SYSTEMS AND THEIR RELATED CONTROLS AS WATER CHEMICALS, COMRESSED AIR, GAS, STEAM, PLUMBING, HEATING, VENTILATING OR AIR CONDITIONING, AND WASTE TREATMENT	500
8.	RESPONSIBLE FOR PERFORMING THE MOST DIFFICULT REPAIRING, INSTALLING OR ADJUSTING OF THE ABOVE MACHINES OR EQUIPMENT USED IN THOSE AREAS FOR WHICH THE APPRENTICE HAS BEEN TRAINED.	300
9.	RESPONSIBLE FOR OPERATING VARIOUS TYPES ON MOVING EQUIPMENT USED IN INSTALLATION AND REPAIR WORK, SUCH AS FORK LIFT TRUCKS, PLATFORM LIFT TRUCKS, MOBILE CRANE, HOISTS, ETC.	100
10.	MAY BE REQUIRED TO WORK IN CONTROLLED MANUFACTURING ZONE, OBSERVING STRICT CRITICALITY AND RADIATION PROTECTION REGULATIONS.	
11.	PERFORMS DUTIES AND TASKS CONFORMING TO ALL SAFETY REGULATIONS AND PROCEDURES. KEEPS FACILITIES, MATERIALS AND WORK AREAS CLEAN AND ORDERLY, EXERCISING GOOD HOUSEKEEPING PRACTICES.	50

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TOTAL HOURS 5,000

G. E. COMPANY PROGRAM: 19831 FILE: 2763
MAINTENANCE MECHANIC
638281014

APPROVED RELATED TRAINING COURSES		HOURS
1.	PRESCRIPTIVE READING	
2.	BASIC COMMUNICATIONS SKILLS	
3.	GRAMMAR FUNDAMENTALS	
4.	TRADE MATHEMATICS (INCLUDING BASIC OPERATIONS AND AN INTRODUCTION TO ALGEBRA)	

PROVIDER - CAPER FEAR COMMUNITY COLLEGE AND G. E.

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	ADULT BASIC EDUCATION/READING IMPROVEMENT	175
G. E. BP - 101	BLUEPRINT READING	60
G. E. BE - 102	BASIC ELECTRICITY I	100
G. E. EIF - 103	ELECTRICAL INSTRUMENT FAMILIARIZATION	60
G. E. IM - 104	INDUSTRIAL MECHANICS	100
G. E. IM - 105	INDUSTRIAL MECHANICS II	75
G. E. IC - 106	INDUSTRIAL CALCULATIONS	55
G. E. BE - 107	BASIC ELECTRICITY II	75
G. E. AC-DC - 108	AC-DC MACHINING	100
G. E. WB - 109	WELDING & BURNING	66
G. E. REL - 110	ELECTRO-MECHANICAL RELAYS AND SYMBOLS	60
G. E. IH - 111	INDUSTRIAL HYDRAULICS	75
G. E. MTR-CIL - 112	MOTOR CONTROLS	60
	GRAND TOTAL HOURS:	1061

You Can Employ a Student
Enrolled In Cooperative Education
To Work With and Around Hazardous Machinery
***Under* 18 Years Of Age**

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CHILD LABOR FAIR STANDARDS ACT Bulletin No. 101

p. 35. EXEMPTIONS FROM HAZARDOUS OCCUPATIONS ORDERS

Hazardous Occupations Orders Nos. 5, 8, 10, 12, 14, 16 and 17 contain exemptions for 16 and 17 year-old apprentices and student-learners provided they are employed under the following conditions:

I. **Apprentices:** (1) The apprentice is employed in a trade recognized as an apprenticeship; (2) The work of the apprentice in the occupations declared particularly hazardous is incidental to his training; (3) such work is intermittent and for short periods of time and is under the direct and close supervision of a journeyman as a necessary part of such apprentice training; and (4) the apprentice is registered by the Bureau of Apprenticeship and Training of the U.S. Department of Labor as employed in accordance with the standards established by that Bureau, or is registered by a State agency as employed in accordance with the standards of the State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, or is employed under a written apprenticeship agreement and conditions which are found by the Secretary of Labor to conform substantially with such Federal or State standards.

II. **Student-Learners:** (1) The student-learner is enrolled in a course of study and training in a cooperative vocational training program under a recognized State or local educational authority or in a course of study in a substantially similar program conducted by a private school; and (2) such student-learner is employed under a written agreement which provides: (i) that the work of the student-learner in the occupations declared particularly hazardous shall be incidental to the training; (ii) that the work of the student -learner shall be intermittent and for short periods of time, and under the direct and close supervision of a qualified and experienced person; (iii) that safety instructions shall be given by the school and correlated by the employer with on-the-job training; and (iv) that a schedule of organized and progressive work processes to be be performed on the job shall have been prepared. Each such written agreement shall contain the name of the student-learner, and shall be signed by the employer and the school coordinator or principal. Copies of each agreement shall be kept on file by both the school and the employer. This exemption for the employment of student-learners may be revoked in any individual situation where it is found that reasonable precautions have not been observed for the safety of minors employed thereunder. A high school graduate may be employed in an occupations in which training has been completed as provided in this paragraph as a student-learner, even though the youth is not yet 18 years of age.